



Complete Summary

GUIDELINE TITLE

Chronic cough in a child.

BIBLIOGRAPHIC SOURCE(S)

Finnish Medical Society Duodecim. Chronic cough in a child. In: EBM Guidelines. Evidence-Based Medicine [Internet]. Helsinki, Finland: Wiley Interscience. John Wiley & Sons; 2007 Mar 8 [Various].

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Finnish Medical Society Duodecim. Prolonged cough in children. In: EBM Guidelines. Evidence-Based Medicine [Internet]. Helsinki, Finland: Wiley Interscience. John Wiley & Sons; 2004 Jun 15 [various]. [7 references]

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT
CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Chronic cough

GUIDELINE CATEGORY

Diagnosis

CLINICAL SPECIALTY

Family Practice
Pediatrics

INTENDED USERS

Health Care Providers
Physicians

GUIDELINE OBJECTIVE(S)

Evidence-Based Medicine Guidelines collect, summarize, and update the core clinical knowledge essential in general practice. The guidelines also describe the scientific evidence underlying the given recommendations.

TARGET POPULATION

Children with cough lasting longer than 6 to 8 weeks

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Searching for diagnostic clues for causes of prolonged cough
2. Diagnostic investigations
 - Blood counts, including eosinophils, C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR)
 - Investigations to establish microbial aetiology including the detection of antibodies to pertussis, mycoplasma and chlamydia
 - X-ray studies
 - Allergy investigations if indicated by history
 - Peak expiratory flow readings in children over 5 years of age
 - Spirometry
 - Lung function tests
 - pH measurement of the esophagus
 - Bronchoscopy and esophagoscopy
 - Measurement of immunoglobulin concentrations and alpha-1-tryptase or a sweat test
 - Oscillometry and exercise testing

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The evidence reviewed was collected from the Cochrane database of systematic reviews and the Database of Abstracts of Reviews of Effectiveness (DARE). In addition, the Cochrane Library and medical journals were searched specifically for original publications.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Classification of the Quality of Evidence

Code	Quality of Evidence	Definition
A	High	Further research is very unlikely to change our confidence in the estimate of effect. <ul style="list-style-type: none">• Several high-quality studies with consistent results• In special cases: one large, high-quality multi-centre trial
B	Moderate	Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate. <ul style="list-style-type: none">• One high-quality study• Several studies with some limitations
C	Low	Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate. <ul style="list-style-type: none">• One or more studies with severe limitations
D	Very Low	Any estimate of effect is very uncertain. <ul style="list-style-type: none">• Expert opinion• No direct research evidence

Code	Quality of Evidence	Definition
		<ul style="list-style-type: none"> One or more studies with very severe limitations

GRADE (Grading of Recommendations Assessment, Development and Evaluation) Working Group 2007 (modified by the EBM Guidelines Editorial Team)

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

In General

- A chronic cough is defined as one that lasts for longer than 6 to 8 weeks.
- The most likely cause of a cough varies according to the age of the child.
- Asthma is possible in children of all ages.

Aetiology

- The most common causes **in an infant**
 - Infection (the most common cause; otitis, bronchiolitis, bronchitis)
 - Asthma, more rare
 - Occasionally structural abnormalities of the respiratory tract (malacia, stenosis, tracheo-oesophageal fistula, vascular ring)
- The most common causes **in a preschool child**
 - Infection (otitis, sinusitis, bronchitis)
 - Asthma
 - A foreign body in the respiratory tract
- The most common causes **in a school-age child**
 - Asthma
 - Infection (e.g. sinusitis)
 - Psychogenic causes
- A cough can be provoked by various irritants in the inspired air, such as cigarette smoke, or by cold weather.
- Gastro-oesophageal reflux (GOR) is possible at any age.
- A cough may also be psychogenic in origin or be provoked by a tic disorder.
- Post-nasal drip associated with allergic rhinitis and mucosal irritation from the maxillary sinuses is a common cause of a chronic cough.
- Very rare causes of a cough include cystic fibrosis, abnormal cilia, vagal stimulation of the respiratory tract and phrenic, pleuritic or pericardial irritation.

Diagnostic Clues

- Bronchial hyperactivity may manifest itself as a nocturnal cough, especially in the small hours, or cough during exercise or in cold weather. If the child has asthma, close questioning will reveal difficulties in breathing (i.e. dyspnoea, even when the child's presenting symptom is a cough).
- A cough originating from GOR is most noticeable at night time and may be associated with excessive burping or regurgitation.
- A foreign body in the respiratory tract will usually cause a sudden burst of coughing, but the child may have a history of coughing for several weeks, even for months. It is only possible to confirm the diagnosis radiologically if the foreign body is radio-opaque. In other cases bronchoscopy is indicated.
 - For an acute situation see the Finnish Medical Society Duodecim guideline "Foreign Body in the Respiratory Passages."
- A cough might continue for several weeks during the convalescent period of many respiratory tract infections, signifying bronchial irritation. Such infections include: rhinovirus, coronavirus, parainfluenza virus and respiratory syncytial (RS) virus infections as well as whooping cough and infections caused by *Mycoplasma pneumoniae* or *Chlamydia pneumoniae*.

Diagnostic Investigations

- Blood counts, including eosinophils, C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR).
- Investigations to establish microbial aetiology include the detection of antibodies to pertussis, mycoplasma and chlamydia (acute and convalescent serums). If an acute infection is diagnosed, asthma investigations can be postponed.
- X-ray studies after consideration.

- Allergy investigations if indicated by history.
- If there are grounds to suspect asthma (see the Finnish Medical Society Duodecim guideline "Diagnosis and Treatment of Childhood Asthma").
 - Peak expiratory flow readings in children over 5 years of age (correct technique!)
 - Spirometry may be carried out from late preschool age onwards.
- In specialised care, after consideration:
 - Lung function tests (see the Finnish Medical Society Duodecim guideline "Diagnosis and Treatment of Childhood Asthma").
 - pH measurement in the oesophagus.
 - Bronchoscopy and oesophagoscopy.
 - If immotile-cilia syndrome is suspected, a biopsy of the cilia may be taken during the endoscopic examination for electron microscopic studies.
 - Oesophageal pH determination.
 - The measurement of immunoglobulin concentrations and alpha-1-tryptsin or a sweat test.
 - In preschool children, oscillometry may be used (with and without a bronchodilator) as well as exercise testing.
- The diagnosis of asthma in a small child is usually based on clinical assessment, history of recurrent episodes of obstruction symptoms, and consideration of risk factors.
- Attacks and medication trials, as functional tests are not available. It is very important that symptoms, the effect of medication and physical findings are recorded in the patient's medical notes.

Related Resources

Refer to the original guideline document for related evidence, including Cochrane reviews and other evidence summaries.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Concise summaries of scientific evidence attached to the individual guidelines are the unique feature of the Evidence-Based Medicine Guidelines. The evidence summaries allow the clinician to judge how well-founded the treatment recommendations are.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate use of diagnostic investigations in children with chronic cough

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 Apr 17 (revised 2007 Mar 8)

GUIDELINE DEVELOPER(S)

Finnish Medical Society Duodecim - Professional Association

SOURCE(S) OF FUNDING

Finnish Medical Society Duodecim

GUIDELINE COMMITTEE

Editorial Team of EBM Guidelines

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Primary Author: Merja Kajosaari

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

This guideline is included in "EBM Guidelines. Evidence-Based Medicine" available from Duodecim Medical Publications, Ltd, PO Box 713, 00101 Helsinki, Finland; e-mail: info@ebm-guidelines.com; Web site: www.ebm-guidelines.com.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on August 28, 2001. The information was verified by the guideline developer as of October 26, 2001. This summary was updated by ECRI on December 9, 2002. This summary was verified by the developer on April 2, 2003. The summary was updated most recently on October 1, 2004. This NGC summary was updated by ECRI Institute on December 2, 2008.

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